

Port of Seattle Pier 64/65 thin-layer sediment cap and Bell Harbor Marina projects; Habitat mitigation monitoring results 1996-2002

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Abstract

In the early 1990s, the Port of Seattle, the City of Seattle, and the Washington State Department of Natural Resources re-developed the former site of Pier 64/65 on the Seattle waterfront (Polaris Applied Sciences 2002). This included placement of a thin-layer sediment cap and construction of the Bell Harbor Marina. The marina design incorporated a fish opening allowing passage of juvenile salmonids. Habitat created as mitigation included: 1) rock 'corridors' on top of the cap 2) riprap along the seawall, and 3) gravel below the slope and between corridors. These substrata were specifically designed to serve as habitat for brown algae and juvenile rockfish. An intertidal bench designed as juvenile salmonid foraging habitat was also constructed under Pier 66. Monitoring included: 1) macroalgae quadrat surveys by divers, 2) qualitative observations of marine biota, 3) sampling of epibenthic juvenile salmonid prey organisms, and 4) a fish passage study. Brown algae (*Laminaria*) holdfast density met performance standards. A small *Nereocystis* bed established itself near the marina opening. Abundant algae, marine invertebrates, fish and juvenile rockfish were observed on the mitigation substrata (Polaris Applied Sciences 2002; 2003b). Epibenthic invertebrates had colonized the intertidal bench at densities comparable to other sites, but declined over time (Polaris Applied Sciences 2003a). Juvenile salmonids successfully utilized the fish opening (R2 Resource Consultants 2000).

References

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